

Notice of Allowability	Application No.	Applicant(s)	
	10/058,684	LI, BAOXIN	
	Examiner	Art Unit	
	Ting Zhou	2173	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 27 April 2006.
2. ☒ The allowed claim(s) is/are 65-82.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--|--|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____. |
| 3. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date <u>1/3/2006</u> <u>12 12 05</u> | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____. |

EXAMINER'S AMENDMENT

1. The amendment filed on 27 April 2006 have been received and entered. The applicant has cancelled claims 1-64 and added new claims 65-82. Claims 65-82 as amended are pending in the application.

2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mr. Kevin L. Russell (Reg. No. 38,292) on 30 June 2006.

3. The application has been amended as follows:

4. Claim 65 has been amended to read:

Claim 65. A method of processing a video including sumo comprising:

(a) identifying a plurality of segments of said video, based upon an event, wherein said event is characterized by a start time based upon when players line up to charge one another and an end time based upon when one of the players at least one of steps outside a ring and touches the ring surface with part of his body other than the soles of his feet, where each of said segments includes a plurality of frames of said video;

(b) identifying said start time by:

(i) identifying sequential image frames of said video having an upper spatial region being substantially darker than a lower spatial region of said frame wherein said lower spatial region comprises, at least in part, a pair of regions having a dominant color description representative of skin tone;

(ii) binarizing said image frames by identifying pixels representative of skin tone and pixels not representative of skin tone;

(iii) projecting the binarized said image frames along at least one of a vertical and a horizontal axis; and

(iv) analyzing the projected said binarized images for each of a plurality of said sequential frames;

(c) identifying said end time; and

(d) creating a summarization of said video comprising said plurality of segments, each of said segments including an associated said start time and said end time, where said summarization includes fewer frames than said video.

5. Claim 66 has been amended to read:

Claim 66. The method of claim 65 where each of said plurality of segments comprises a sequential series of frames of said video, said series beginning at a frame prior to an associated said start time and ending at a frame after an associated said end time.

6. Claim 68 has been amended to read:

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Claim 68. The method of claim 65 wherein said start time is temporally proximate a charge of two players.

Allowable Subject Matter

7. Claims 65-82 are allowed.

8. The following is an examiner's statement of reasons for allowance: The present invention teaches creating a summarization of video content of a sumo wrestling match using specific frame segments of the video, based on a start time and an end time. Each of the independent claims identifies the distinct feature of identifying the start time by: (1) identifying sequential image frames of said video having an upper spatial region being substantially darker than a lower spatial region of said frame wherein said lower spatial region comprises, at least in part, a pair of regions having a dominant color description representative of skin tone; (2) binarizing said image frames by identifying pixels representative of skin tone and pixels not representative of skin tone; (3) projecting the binarized said image frames along at least one of a vertical and a horizontal axis; and (4) analyzing the projected said binarized images for each of a plurality of said sequential frames. The closest prior art, the article "Indexing of Baseball Telecast for Content-based Video Retrieval" by Kawashima et al. (hereinafter "Kawashima"), teaches a method of creating summarization of video content of a sporting event such as a baseball game from a plurality of selected frame segments based upon a start time and an end time. However, the prior art fails to teach that video summarization process is performed on video content for a sumo wrestling match, i.e. Kawashima does not teach the four steps for identifying the start time

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that is specific to sumo, namely (1) identifying sequential image frames of said video having an upper spatial region being substantially darker than a lower spatial region of said frame wherein said lower spatial region comprises, at least in part, a pair of regions having a dominant color description representative of skin tone; (2) binarizing said image frames by identifying pixels representative of skin tone and pixels not representative of skin tone; (3) projecting the binarized said image frames along at least one of a vertical and a horizontal axis; and (4) analyzing the projected said binarized images for each of a plurality of said sequential frames. Thus, the prior art fail to anticipate or render the above limitations obvious.

9. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ting Zhou whose telephone number is (571) 272-4058. The examiner can normally be reached on Monday - Friday 7:00 am - 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Cabeca can be reached at (571) 272-4048. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TZ



KIEU D. VU
PRIMARY EXAMINER